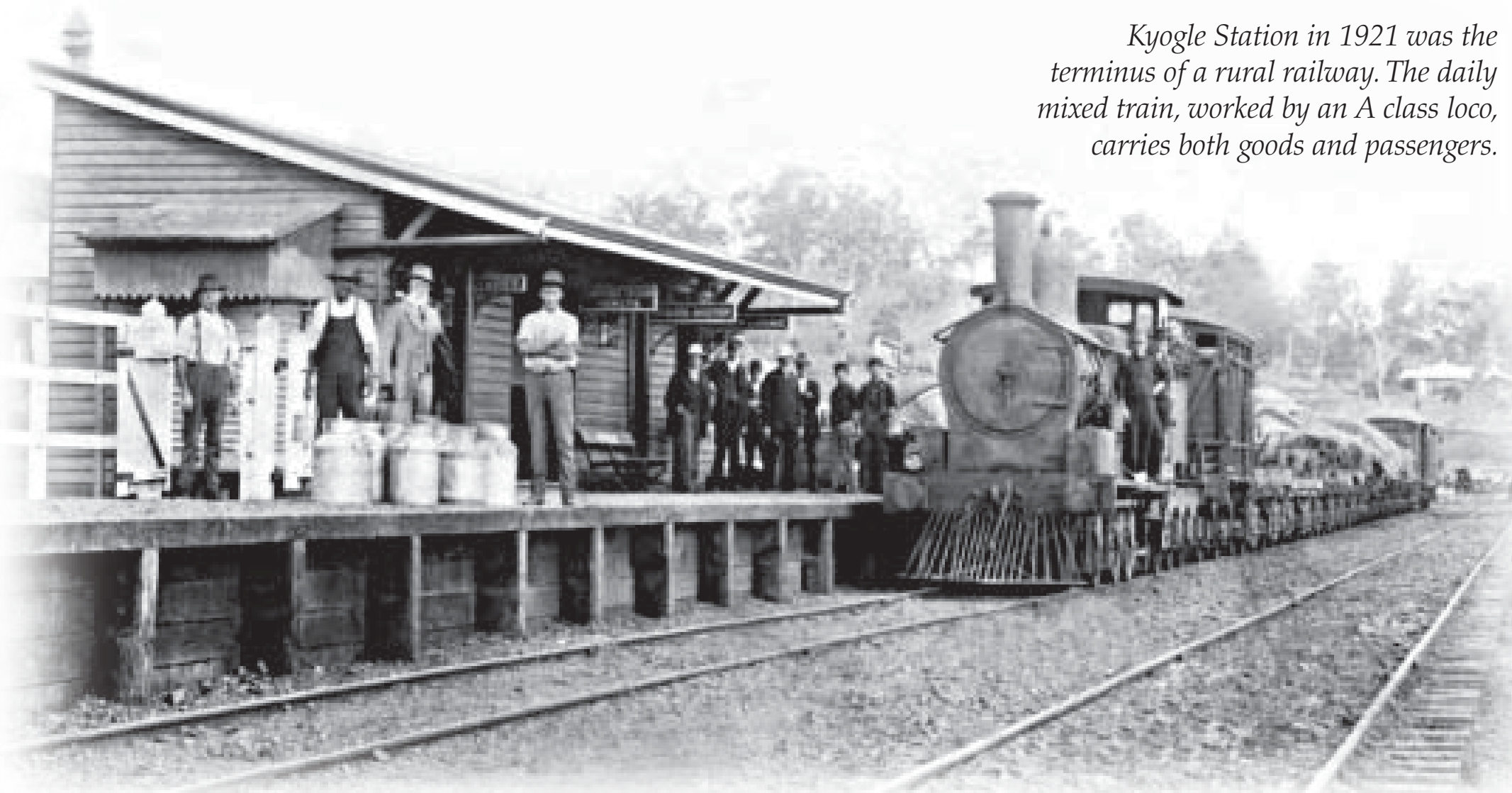


# The Grafton to Brisbane National Railway Link



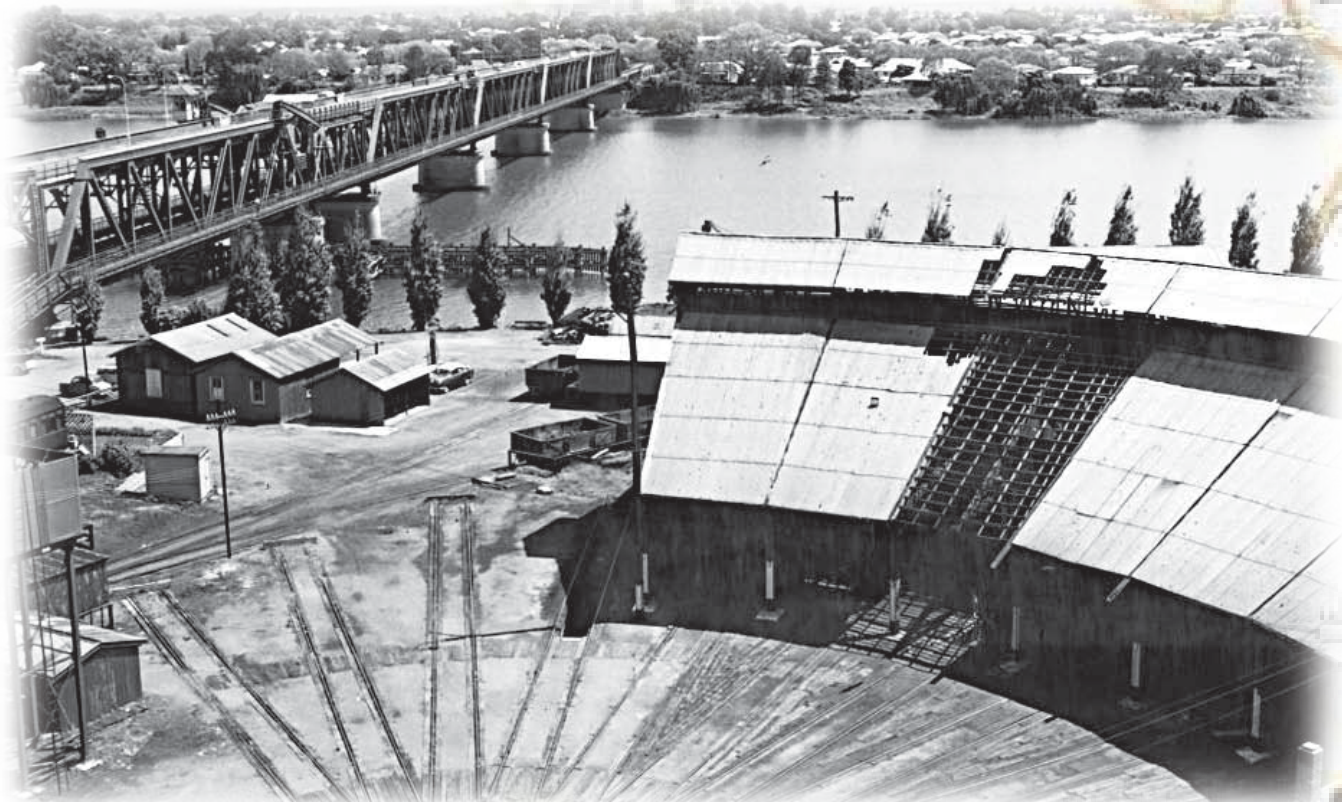
*Kyogle Station in 1921 was the terminus of a rural railway. The daily mixed train, worked by an A class loco, carries both goods and passengers.*

## One Journey – One Train

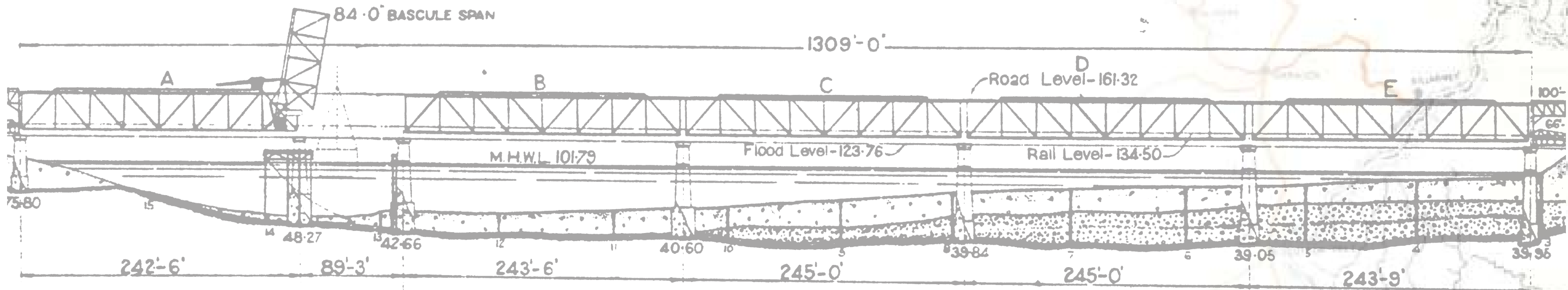
The Sydney to Brisbane coastal railway was completed on 7 May 1932 when the Clarence River Bridge opened for rail traffic. It was the first interstate railway built to a ‘uniform’, standard gauge (the track is the same inside width of 4 feet 8½ inches or 1435 mm throughout its length). The final link joining Grafton to Brisbane was built with joint State and Federal funding and is of national engineering significance.

Initially, the railways in different mainland States had been built to various gauges. Lack of uniformity frustrated the ideals of Federation by creating barriers to interstate commerce and requiring change of train at State borders. This railway pioneered cooperation between States and the Commonwealth in a program of engineering works under the ‘Uniform Railway Gauge Council’. Today we can travel from Fremantle to Brisbane on uniform gauge railways.

The railway also provided a strategic corridor for national defence requirements, greatly benefiting Australia’s capabilities during World War II.



*South Grafton Depot of the Grafton to Brisbane Railway (now demolished) and the Clarence River Bridge, at the end of the steam era in October 1963.*



## Grafton’s Heritage Icon The Clarence River Bridge

The Clarence River Bridge is one of the most important railway bridges in NSW. It is designed as a Pratt truss steel structure of five 240 ft spans. Unique to Australia and possibly the world, is its double-deck design with a reinforced concrete roadway on top. The elevated railway viaduct through the city incorporates elegant, arched concrete spans.

Busy river traffic in the early 20th century required an opening section in mid-stream. This was built as a hinged ‘Bascule’ span of 84 ft, one of the largest known. The bridge was constructed for two rail tracks, but only one is installed.

Known as the ‘bendy bridge’ for its roadway curves at each end, it is an icon for Grafton’s community and a tourist’s delight. The bridge was opened on 19 July 1932 by Governor-General Sir Isaac Isaacs, who first anticipated its national engineering heritage importance by describing it to be ‘..of national, and even Imperial, significance..’.



*This photo of the Clarence River Bridge, shown with Bascule Span lifted and an image of the ‘Southern Cross’ superimposed above, was used on the cover of the booklet celebrating its opening on 19th July 1932.*

**Grafton Bridge over Clarence River  
Showing Bascule Span lifted  
to let shipping through.**



## Designed by Talent, Built by Muscle

The Grafton to Brisbane Railway Link was designed and constructed in each State by their respective railways departments.

The NSW Government Railways fostered much specialist talent amongst its design staff; one was Engineer James Waller Roberts. As principal designer of the Clarence River Bridge, he has been recognised for his clever adaptation of the American ‘Roll-Bascule’ opening span to a double-deck configuration.

The mountainous railway route also posed many construction challenges. Chief Engineer William Hutchinson was the talent behind the design team in NSW. He pioneered engineering solutions such as the Cougal Spiral (sometimes called ‘The Loop’) and the border tunnel of 1160 metres under Richmond Gap.

The wet, rugged conditions and isolation made it difficult to use large machinery available in the 1920s. Consequently, this was the last big railway project in Australia undertaken by men living in camps under canvas and with energy supplied by human and animal muscle.

*Railway workers tent camp on the Queensland side of the Richmond Range (ARHS Railway Research Centre)*



*Bridge Engineer  
James Waller Roberts, B.E.  
(family photo)*



*Chief Engineer  
William Hutchinson*



The Grafton to Brisbane National Railway Link was declared a National Engineering Heritage Landmark by Engineering Heritage Australia (the heritage arm of Engineers Australia) at a heritage recognition ceremony held on 13th June 2009.

The award recognises our assessment that this work of engineering has a history which is of national significance to the people of Australia.



**AUSTRALIAN RAIL TRACK CORPORATION LTD**

The Clarence River Bridge and the coastal railway are part of the interstate rail network under the control of ARTC.



*Governor-General Sir Isaac Isaacs opens Clarence River Bridge (from the 1932 souvenir booklet)*